

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 25 APR 2005

WIPO

PCT

To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION:**  
See paragraph 2 below

International application No.  
PCT/GB2005/000224

International filing date (day/month/year)  
21.01.2005

Priority date (day/month/year)  
22.01.2004

International Patent Classification (IPC) or both national classification and IPC  
C23C24/08, C23C26/00, C23C30/00

Applicant  
THE VICTORIA UNIVERSITY OF MANCHESTER

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
Fax: +31 70 340 - 3016

Authorized Officer

Elsen, D

Telephone No. +31 70 340-2005



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000224

---

**Box No. I Basis of the opinion**

---

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000224

---

**Box No. V Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

---

**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-33
Inventive step (IS)	Yes: Claims	
	No: Claims	1-33
Industrial applicability (IA)	Yes: Claims	1-33
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item V.**

**1 Reference is made to the following documents:**

- D1 : DE 198 00 310 A1 (BAYER AG, 51373 LEVERKUSEN, DE) 8 July 1999 (1999-07-08)  
D2 : US 2002/045010 A1 (ROHRBAUGH ROBERT HENRY ET AL) 18 April 2002 (2002-04-18)  
D3 : DE 199 39 686 A1 (DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE EV) 22 February 2001 (2001-02-22)  
D4 : US 2003/003237 A1 (SEABAUGH MATTHEW M ET AL) 2 January 2003 (2003-01-02)  
D5 : US 6 007 926 A (PROVENZANO ET AL) 28 December 1999 (1999-12-28)  
D6 : DATABASE WPI , Section Ch, Week 200346, Derwent Publications Ltd., London, GB; Class D15, AN 2003-483253 , XP002324165 &  
CN 1 405 122 A (ZHANG Y) 26 March 2003 (2003-03-26)  
D7 : US 2003/077398 A1 (STRUTT PETER R ET AL) 24 April 2003 (2003-04-24)  
D8 : WO 02/086194 A (ITN-NANOVATION GMBH; NONNINGER, RALPH; BINKLE, OLAF) 31 October 2002 (2002-10-31)  
D9 : WO 03/025258 A (TECHNISCHE UNIVERSITAET ILMENAU; KERN, HEINRICH; KRUEGER, HORST, GUENT) 27 March 2003 (2003-03-27)

**2 INDEPENDENT CLAIMS 1,11,27,28**

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,11,27,28 is not new in the sense of Article 33(2) PCT.

Documents D1-D7,D9 disclose green ceramic coating compositions comprising nano-sized particles dispersed within a carrier medium together with pre-formed particles and a method for producing a ceramic coating upon a substrate comprising the steps of forming a slurry comprising a mixture of nano-sized ceramic particles and pre-formed particles, applying the mixture to a substrate and heat treating the slurry mixture to produce a ceramic coating ( see references of cited documents in the search report).

**3 INDEPENDENT CLAIM 32**

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 32 is not new in the sense of Article 33(2) PCT.  
Document D8 discloses (the references in parentheses applying to this document): a method for producing a porous ceramic layer on a substrate and filling the pores in said ceramic porous layer with a metallic layer by electrochemical plating or electroless deposition ( see claims 1-3).

**4 DEPENDENT CLAIMS 2-10, 12-26, 29-31, 33**

Dependent claims 2-10, 12-26, 29-31, 33 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT). The reasons being as follows: the subject-matter of these claims is known from D1-D9.

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 25 APR 2005

WIPO

PCT

To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2005/000224

International filing date (day/month/year)  
21.01.2005

Priority date (day/month/year)  
22.01.2004

International Patent Classification (IPC) or both national classification and IPC  
C23C24/08, C23C26/00, C23C30/00

Applicant  
THE VICTORIA UNIVERSITY OF MANCHESTER

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
Fax: +31 70 340 - 3016

Authorized Officer

Elsen, D

Telephone No. +31 70 340-2005



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000224

---

**Box No. I Basis of the opinion**

---

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000224

---

**Box No. V Reasoned statement under Rule 43b/s.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

---

**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-33
Inventive step (IS)	Yes: Claims	
	No: Claims	1-33
Industrial applicability (IA)	Yes: Claims	1-33
	No: Claims	

**2. Citations and explanations**

**see separate sheet**



**Re Item V.**

**1 Reference is made to the following documents:**

- D1 : DE 198 00 310 A1 (BAYER AG, 51373 LEVERKUSEN, DE) 8 July 1999 (1999-07-08)  
D2 : US 2002/045010 A1 (ROHRBAUGH ROBERT HENRY ET AL) 18 April 2002 (2002-04-18)  
D3 : DE 199 39 686 A1 (DECHEMA GESELLSCHAFT FUER CHEMISCHE TECHNIK UND BIOTECHNOLOGIE EV) 22 February 2001 (2001-02-22)  
D4 : US 2003/003237 A1 (SEABAUGH MATTHEW M ET AL) 2 January 2003 (2003-01-02)  
D5 : US 6 007 926 A (PROVENZANO ET AL) 28 December 1999 (1999-12-28)  
D6 : DATABASE WPI , Section Ch, Week 200346, Derwent Publications Ltd., London, GB; Class D15, AN 2003-483253 , XP002324165 &  
CN 1 405 122 A (ZHANG Y) 26 March 2003 (2003-03-26)  
D7 : US 2003/077398 A1 (STRUTT PETER R ET AL) 24 April 2003 (2003-04-24)  
D8 : WO 02/086194 A (ITN-NANOVATION GMBH; NONNINGER, RALPH; BINKLE, OLAF) 31 October 2002 (2002-10-31)  
D9 : WO 03/025258 A (TECHNISCHE UNIVERSITAET ILMENAU; KERN, HEINRICH; KRUEGER, HORST, GUENT) 27 March 2003 (2003-03-27)

**2 INDEPENDENT CLAIMS 1,11,27,28**

- 2.1** The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,11,27,28 is not new in the sense of Article 33(2) PCT.

Documents D1-D7,D9 disclose green ceramic coating compositions comprising nano-sized particles dispersed within a carrier medium together with pre-formed particles and a method for producing a ceramic coating upon a substrate comprising the steps of forming a slurry comprising a mixture of nano-sized ceramic particles and pre-formed particles, applying the mixture to a substrate and heat treating the slurry mixture to produce a ceramic coating ( see references of cited documents in the search report).

**3 INDEPENDENT CLAIM 32**

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 32 is not new in the sense of Article 33(2) PCT. Document D8 discloses (the references in parentheses applying to this document): a method for producing a porous ceramic layer on a substrate and filling the pores in said ceramic porous layer with a metallic layer by electrochemical plating or electroless deposition ( see claims 1-3).

**4 DEPENDENT CLAIMS 2-10, 12-26, 29-31, 33**

Dependent claims 2-10, 12-26, 29-31, 33 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT). The reasons being as follows: the subject-matter of these claims is known from D1-D9.